Notes and Discussion

OCCURRENCE OF A NEOSILURID CATFISH (*NEOSILURUS* SP.) IN THE PAROO RIVER, MURRAY-DARLING BASIN

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In April 1991, forty seven plotosid catfish were caught in 40 mm stretch-mesh gill nets in Mullawoolka Basin (143°45′S, 30°30′E), an ephemeral lake on the flood plain of the Paroo River near its junction with the Darling River, in north-western New South Wales (Fig. 1). Specimens of this plotosid were found at all four sites sampled in Mullawoolka Basin, although they were most common at the site in Tongo Creek, where 33 fish were caught. In comparison, ≤4 individuals were caught for the same effort at each of the remaining sites in the lake.

The series collected included a substantial size range; total lengths ranged from 115-195 mm (mean 172 mm, s.e. ±1.9 mm), and weights from 15-58 g (mean 33.2 g, s.e. ±1.3 g). The colouration of these fish was light brown dorsally, with silver sides becoming paler ventrally. All fins were yellow. Four representative specimens were fixed in 10% formalin then preserved in 70% ethanol and lodged in the Western Australian Museum collection (WAM P.30299-001).

On examination this catfish was identified as a member of the genus *Neosilurus*, however, a specific epithet has not been used for two reasons. Firstly, there is considerable confusion about the status of various species of Australian eel-tailed catfish (Plotosidae) — especially the *Neosilurus* group. Secondly, the family is presently under review (Allen, 1991, pers. comm.).

Neosiiurids have now been reported from the Condamine system (Lake, 1978; Leggett, 1988), Warrego River (Unmack, 1991, pers. comm.) and an upper Paroo tributary (Leggett, 1991, pers. comm.); however, species identifications have been tentative and few reference specimens retained. This capture marks a range extension for the species group within the Murray-Darling system. The Paroo River is the most north-westerly Darling tributary and only flows periodically into the Darling following major flooding — such as that occurring in 1990 and 1991.

Two *Neosilurus* species have similar broad distributions over the northern Australian drainages (Indian Ocean, Timor Sea, Gulf of Carpentaria, North-east Coast) and from the inland catchment of the Lake Eyre drainage division (Merrick and Schmida, 1984). Neither *Neosilurus hyrtlii* (Steindachner, 1867) nor *N. glencoensis* (Rendahl, 1992) — considered a synonym of *N. hyrtlii* by Allen (1989) — has been positively identified as occurring within the Murray-Darling catchment, although Lake (1978) did report that specimens of a plotosid catfish captured by Hamar Midgley in 1975 from the Condamine River, could have been *N. hyrtlii*.

N. hyrtlii and *Neosilurus ater* in the Ross River, Queensland, were demonstrated to be lithophilic flood-spawners; they migrate upstream into ephemeral rain-fed creeks during periods of high flow to lay demersal eggs freely into a gravel substrate (Orr and Milward, 1984). Tongo Creek, which is usually dry, flowed briefly after rainfall of 55 and 81 mm averaged over the Paroo catchment, which fell during a few days in January and February 1991 (National Climate Centre data). However, this creek had ceased to flow before the sampling period in April.

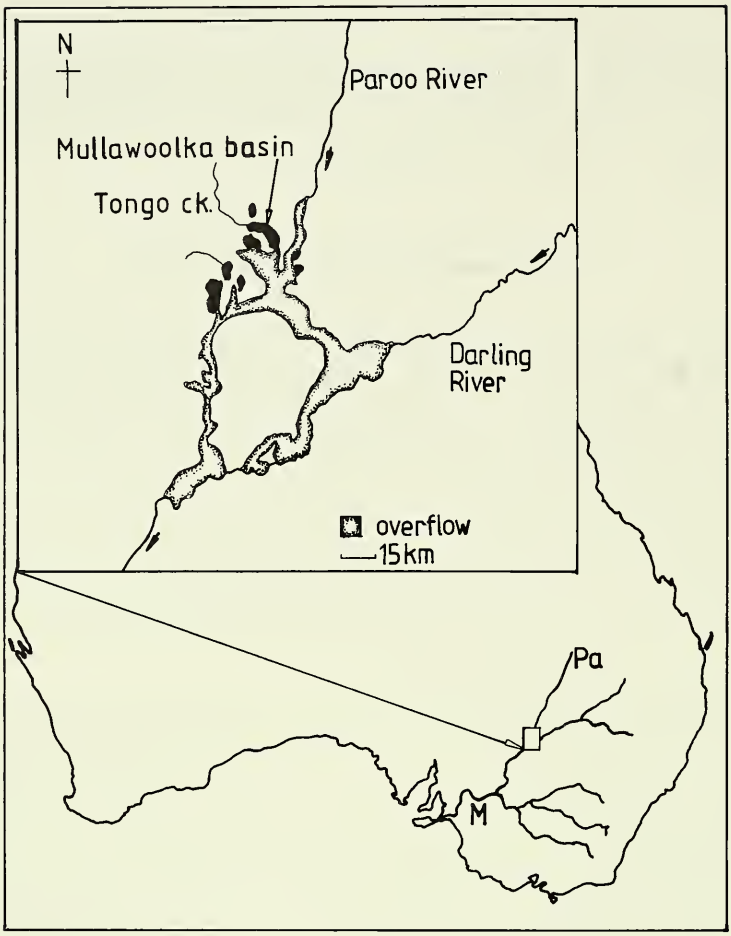

Fig. 1. Collection site for *Neosilurus* sp; the Paroo River (Pa), a second order tributary of the Murray River (M). Inset: Mullawoolka Basin and Tongo Creek showing their relationship with the Paroo River overflow and the Darling River.

Ovaries from the four specimens examined from Tongo Creek were small (gonadosomatic index <1), flaccid, and contained a few large oocytes within a large lumen — a typical post-spawning condition. This evidence suggests that the *Neosilurus* sp. in Tongo Creek may have spawned in response to flood conditions as Orr and Milward (1984) found for the Ross River population of *N. hyrtlii*.

All preserved specimens of *Neosilurus* sp. examined had infestations of a copepod parasite, *Lernaea* sp., as did the sympatric population of golden perch, *Macquaria ambigua*, and spangled perch, *Leiopotherapon unicolor*.

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References

ALLEN, G. R., 1989. — *Freshwater Fishes of Australia*. Neptune City: T.F.H. Publications.

LAKE, J. S., 1978. — *Australian Freshwater Fishes*. Melbourne: Thomas Nelson.

LEGGETT, R., 1988. — Bony fishes: 150-155. *In* SCOTT, G. (ed). *Lake Broadwater. A Natural History of an Inland Lake and its Environs*. Toowoomba: Darling Downs Institute Press.

MERRICK, J. R., and SCHMIDA, G. E., 1984. — *Australian Freshwater Fishes. Biology and Management*. Sydney: Merrick.

ORR, T. M., and MILWARD, N. E., 1984. — Reproduction and development of *Neosilurus ater* (Perugia) and *Neosilurus hyrtlii* Steindachner (Teleostei: Plotosidae) in a tropical Queensland stream. *Aust. J. Mar. Freshw. Res.* 35: 187-195.

RENDAHL, H., 1922. — A contribution to the ichthyology of North-West Australia. *Nytt Magasin for Naturvidenskapene* 60(5): 163-197.

STEINDÁCHNER, F., 1867. — Über einige Fische aus dem Fitzroy-Flusse bei Rockhampton in Ost-Australien. *Sitzber. Akad. Wiss. Wien.* 55(1): 9-16.

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